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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

HO, THOMAS M

ART UNIT PAPER NUMBER

2134

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/521,424

Applicant(s)

WAKAO ET AL.

Examiner

Thomas M. Ho

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment of 12/13/04 has been received and entered.
2. Claims 38-73 are pending.

Response to Arguments

3. Applicant has argued the following:

Applicant submit that the cited art fails to disclose or suggest at least the above-mentioned feature. The Examiner asserts that Friedman (i) the predetermined calculation is the encrypted hash and the confidential information is the encrypted hash and the confidential information is the private key(citing Col. 4, lines 34-36 and 55-67) and (ii) the additional data that is generated is the digital signature, which is generated from the predetermined calculation of the hash (citing Col 5, lines 56-60). Applicants respectfully disagree and submit that claim 38 cannot reasonably be read on the disclosure of Friedman.

Friedman merely discloses a conventional system as disclosed in the Background section of the present application (and as discussed above). In particular, Applicants submit that Friedman discloses performing a hash function on image data (which is not disclosed as being encoded) and “using the camera’s unique private key... to encrypt a hash of the captured image file...for

creating an encrypted image hash, thus producing a digital signature.” (Col. 5, lines 58-62.) If the encrypting of the image hash using the private key in Friedman is construed to be a predetermined calculation on encoded image data using confidential information, then Friedman does not disclose or suggest generating additional data using the result of the predetermined calculation. In Friedman, the hash encrypted with the private key **is** the digital signature, and there is no further step. By asserting that the additional data that is generated in Friedman is the digital signature, Applicants respectfully submit that the Examiner appears to misconstrue Friedman as having some further process to produce the digital signature, which is not the case.

The Examiner contends that Friedman discloses on (Column 4, lines 63-66) with regards to the hash.

“All of the added information that is recorded in the border of the image frame is hashed and encrypted together with the image to become *part* of the signature.”

It is for this reason that the Examiner has interpreted the encrypted hash to not exactly be the digital signature but merely “part” of the signature, suggesting that there are additional data generated. If the encrypted hash, as Friedman states, forms only “part” of the digital signature, the Friedman would indeed have a further process by which the rest of the signature is produced.

For this reason, the Examiner maintains his interpretation of Friedman as being reasonable, and the rejection therefore, proper.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims are 38-48, 50-56, 58-64, 66-72 rejected under 35 U.S.C. 102(b) as being unpatentable over Friedman, US Patent 5,499,294.

In reference to claim 38:

Friedman(Column 5, lines 52 - Column 6, line 1) discloses an apparatus for generating additional data which is used for checking whether an encoded digital image is changed or not, (where the predetermined encoding format is an industry standard format image file), the apparatus comprising:

- A calculation unit adapted to perform a predetermined calculation using the encoded digital image and confidential information, where the predetermined calculation is the encrypted hash, (Column 4, lines 34-36) & (Column 4, lines 55-67) and the confidential information is the private key
- A generating unit coupled to said calculation unit and adapted to generate the additional data using a result of the predetermined calculation, where the additional data that is

generated is the digital signature, which is generated from the predetermined calculation of the hash. (Column 5, lines 56-60)

- A recording unit adapted to record the encoded digital image with the additional data on a recording medium, where the recording unit is the recorder of the digital camera system that is used to store the additional data digital signature with the digital image. (Column 5, lines 62-65)

In reference to claim 39:

Friedman discloses an apparatus for checking whether an encoded digital image is changed or not, the apparatus comprising:

- An inputting unit adapted to input the encoded digital image with first additional data used for checking whether the encoded digital image is changed or not, where the first additional data is the digital image file which is later used to check whether the digital image changed or not. (Column 6, lines 10-15)
- A calculation unit adapted to perform a predetermined calculation using the encoded digital image and confidential information, where the calculation unit calculates the encryption of the hash, and the confidential information used is the private key. (Column 5, lines 52-67)
- A generating unit coupled to said calculation unit and adapted to generate second additional data using a result of the predetermined calculation, where the second additional data is the digital signature, produced from the predetermined calculation of the hash. (Column 5, lines 56-60)

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- Wherein said apparatus is adapted to check whether the digital image is changed or not using the first additional data and the second additional data, where authentication apparatus uses the original image and digital signature, and the second additional data produced by the authentication system to compare for differences and see if the digital image is changed or not. (Column 5, lines 62-65)

Claim 40 is rejected for the same reasons as claim 38.

Claim 41 is rejected for the same reasons as claim 39.

In reference to claim 42:

Friedman(Column 5, lines 50-65) discloses an apparatus according to claim 38, wherein the additional data is also used for checking integrity of the encoded digital image, where the additional data is the digital signature.

In reference to claim 43:

Friedman(Column 5, lines 50-65) discloses an apparatus according to claim 38, wherein the generating unit is adapted to use a one-way function to generate the additional data, where the one-way function is the function used to generate a hash which is then in turn used to generate the additional data of the digital signature.

In reference to claim 44:

Friedman(Column 5, lines 50-65) discloses an apparatus according to claim 38, wherein the generating unit is adapted to use a secret key cryptosystem to generate the additional data, where the secret key cryptosystem is the usage of the private key used to generate the digital signature.

In reference to claim 45:

Friedman (Column 7, line 45 - Column 8, line 9) discloses an apparatus according to claim 38, wherein the confidential information is information unique to the apparatus, where private key is unique to the apparatus.

In reference to claim 46:

Friedman(Column 7, lines 45-56) discloses an apparatus according to claim 38, wherein the confidential information is information unique to an external apparatus connected to the apparatus in its creation process, wherein the confidential information is the private key which may be unique to the manufacturer who must ensure that the private key remains secret.

In reference to claim 47:

Friedman(Column 7, line 58-66) & (Column 8, lines 1-9) discloses an apparatus according to claim 38, wherein the confidential information includes first information unique to the apparatus, and second information unique to an external apparatus connected to the apparatus, where the first information and second information unique to the apparatus is the private key, and is connected through the initial secure microprocessor generation process.

In reference to claim 48:

Friedman (column 4, lines 30-45) discloses an apparatus according to claim 38, wherein the apparatus is an apparatus which operates as a digital camera.

In reference to claim 50:

Friedman (Column 5, lines 50-65) discloses an apparatus according to claim 39, wherein the first and second additional data is also used for checking integrity of the encoded digital image, where the first data is the image file, and the second data is the digital signature which are used by the authentication system to check the integrity of the digital image.

In reference to claim 51:

Friedman (Column 5, lines 50-65) discloses an apparatus according to claim 39, wherein the generating unit is adapted to use a one-way function to generate the second additional data, where the one way function generates a hash of the image which is then in turn used to generate the digital signature.

In reference to claim 52:

Friedman (Column 5, lines 50-65) discloses an apparatus according to claim 39 wherein the generating unit is adapted to use a secret key cryptosystem to generate the second additional data, where a secret key cryptosystem involves the usage of a private key to generate the digital signature.

Claims 53-55 are rejected for the same reasons as claims 45-47 respectively.

In reference to claim 56:

Friedman(column 4, lines 30-45) discloses an apparatus according to claim 39, wherein the encoded digital image and additional data are generated in an apparatus which operates as digital camera.

Claim 58-64,66-72 is rejected for the same reasons as 42-48, 50-56 respectively.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 49, 57, 65, 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman.

In reference to claim 49:

Friedman fails to explicitly discloses an apparatus according to claim 38, wherein the apparatus is an apparatus which operates as a scanner.

The examiner takes official notice that a scanner is a well known image processing apparatus in the art, and like a digital camera, also equipped with the means to acquire images of certain objects. Additionally scanners may also attach to a computer or external system in the same way as a digital camera, such as through the use of a USB port. It is also understood to those in the art that a scanner is an apparatus that operates as a scanner.

It would have been obvious to one of ordinary skill in the art at the time of invention to apply the image authentication mechanism of Friedman and apply it for use with a scanner given the benefit of being able to also authenticate images acquired by scanner in addition to a digital camera.

Claim 57, 65, 73 is rejected for the same reasons as claim 49.

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of the final action and the advisory action is not mailed under after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension pursuant to 37 CFR 1.136(A) will be calculated from the mailing date of the advisory action. In no event, however,

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will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication from the examiner should be directed to Thomas M Ho whose telephone number is (571)272-3835. The examiner can normally be reached on M-F from 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (571)272-3838.


The Examiner may also be reached through email through Thomas.Ho6@uspto.gov

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.

| | | |
|----------------------------------|-------------------------|-------------------|
| General Information/Receptionist | Telephone: 571-272-2100 | Fax: 703-872-9306 |
| Customer Service Representative | Telephone: 571-272-2100 | Fax: 703-872-9306 |

TMH

August 20th, 2005.


GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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